

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended): A microwave tube comprising an electron gun ~~[(12)]~~ generating an electron beam ~~[(20)]~~ in a cylindrical microwave structure ~~(14, 50)~~ of the tube, the microwave structure delivering a microwave at one output, a collector ~~(16, 58, 82, 92)~~ for collecting electrons from the beam comprising at least one electrode that is mechanically coupled to the microwave structure via a dielectric ~~(62, 94)~~, the mechanical coupling forming a radial waveguide for propagating spurious microwave radiation ~~[(Pr)]~~ from the tube, ~~characterized in that wherein~~ , in order to attenuate the spurious radiation from the tube, the radial waveguide includes at least one quarter-wave microwave trap having, at least at the operating frequency F of the tube, an open circuit for the microwave propagating in said radial waveguide for propagating spurious radiation.

2. (currently amended): The microwave tube as claimed in claim 1, ~~characterized in that wherein~~ it includes a microwave trap at the operating frequency F of the tube, having a cylindrical slot ~~(104, 114)~~ collinear with the axis of revolution ZZ' of the tube and emerging in said radial waveguide for coupling the body ~~[(90)]~~ to the collector ~~[(92)]~~ of the tube.

3. (currently amended): The microwave tube as claimed in claim 2, ~~characterized in that wherein~~ it includes another microwave trap at a frequency 2F, having another cylindrical slot ~~(108, 116)~~ collinear with the axis of revolution ZZ' of the tube and emerging in the radial waveguide for coupling the body to the collector of the tube.

4. (currently amended): The microwave tube as claimed in ~~either of claim~~~~[[s]]~~ 1 ~~or 2~~, ~~characterized in that wherein~~ the collector ~~[(96)]~~ includes a circular slot ~~(104, 114)~~ around the ZZ' axis with a rectangular cross section and a depth equal to  $\lambda/4$ , the slot emerging via one side

in the radial waveguide (Wg),  $\lambda = c/F$  being the wavelength at the operating frequency F of the tube, the slot being at a distance d1 from the point where the radial waveguide emerges on the same side as the internal opening [(95)] of the collector [(92)], such that:

$$d1 = (\lambda g/4 + k\lambda g/2)$$

[-]  $\lambda g$  being the wavelength in the radial waveguide;

[-] k being zero or an integer; and

[-] c being the velocity of light in the medium in question.

5. (currently amended): The microwave tube as claimed in claim 2, ~~characterized in that~~ wherein the collector [(92)] includes a second slot (108, 116) of circular shape around the ZZ' axis, having a rectangular cross section and a depth equal to  $\lambda/8$ , said second slot emerging alongside the slot in the radial waveguide, the second slot being at a distance d2 from the point where the radial waveguide emerges on the same side as the internal opening [(95)] of the collector [(92)] such that:

$$d2 = (\lambda'g/4 + k'\lambda'g/2),$$

with k' being an integer and  $\lambda'g$  being the wavelength in the radial waveguide (Wg) at the frequency 2F.

6. (currently amended): The microwave tube as claimed in ~~one of claim[s] 2 to 5,~~ characterized in that wherein the waveguide has, at its input at "ed", a zero impedance or an impedance of very low value ( $V_{ed} \approx 0$ ).

7. (currently amended): The microwave tube as claimed in ~~one of claim[s] 1 to 6,~~ characterized in that wherein the collector is of the "depressed collector" type comprising several mechanically coupled electrodes, each coupling between two consecutive electrodes forming a radial waveguide for propagating spurious microwave radiation (Pr) from the tube, characterized in that, in order to attenuate the spurious radiation from the tube, the radial waveguide between two consecutive electrodes includes at least one quarter-wave microwave trap having, at least at the operating frequency F of the tube, an open circuit for the microwave propagating in said radial waveguide for propagating spurious radiation.

8. (currently amended): The microwave tube as claimed in ~~one of claim~~[[s]] 2 ~~to~~ 7, ~~characterized in that~~ wherein but the slots are filled with dielectric, of low dielectric constant,  $\epsilon_r(> 1)$ ,  $\lambda$ , as well as the length of the slots, being reduced in the ratio of the square root of  $\epsilon_r$  relative to the case in which the slots are in a vacuum.

9. (currently amended): The microwave tube as claimed in ~~one of claim~~[[s]] 2 ~~to~~ 6, ~~characterized in that~~ wherein one or more slots are in air.

10. (new): The microwave tube as claimed in claim 2, wherein the collector includes a circular slot around the ZZ' axis with a rectangular cross section and a depth equal to  $\lambda/4$ , the slot emerging via one side in the radial waveguide (Wg),  $\lambda = c/F$  being the wavelength at the operating frequency F of the tube, the slot being at a distance d1 from the point where the radial waveguide emerges on the same side as the internal opening of the collector, such that:

$$d1 = (\lambda g/4 + k\lambda g/2)$$

$\lambda g$  being the wavelength in the radial waveguide;

k being zero or an integer; and

c being the velocity of light in the medium in question.